DEN ASDE ELEVATOR

SUMMARY OF WORK

1.0 GENERAL

1.1 SCOPE

The selected Contractor shall furnish all design, labor, product, equipment, materials, and supervision for design build the DEN ASDE galvanize structure stair at DEN International Airport, Colorado.

Prior to “construction,” all of the design, equipment and material shall be reviewed and accepted by a FAA representative.

The following items are a summary of the project and are provided solely for the purpose of describing the general nature of the work. The Contractor is responsible for accomplishing all items of work identified in the applicable drawings, specifications, and provisions of the contract:

A. General

1. The DEN ASDE is an active operational facility, which runs 24 hours a day, 7 days a week.
2. All work shall be coordinated with the FAA and be accomplished on a “Not to interfere with FAA operations” basis.
3. Construction material shall be stored only in FAA approved areas.
4. Construction staging shall be allowed only in the FAA approved areas.
5. The Contractor shall provide all temporary services required for construction.
6. The Contractor shall clean up and restore the site grounds to its original condition after the work has been performed.

B. Design Built

The following information should be considered for the project:

Approximately 15ft x 15ft x 2ft 3000 psi reinforce concrete foundation right next to the existing ASDE elevator to support approximately 40000-50000lbs stand-alone hot dipped galvanized stair structure or the combination of steel structure with power coat weatherproofing and hot dipped galvanized stair.

Concrete foundation will be supported by 4 helical piers drilled into bed rock and to be installed by manufacture's certified installer and recommendations or 4 – 1ft diameter concrete piers or 4 – 3 ft diameter piers without foundation to support stair structure base on geotechnical / soil report.

Approximately 70ft stand-alone hot dipped galvanized structure with 36 inch wide and 180 turn application stair with landing, railings, handrails to match with the existing ASDE structure or the combination of steel structure with power coat weatherproofing and hot dipped galvanized stair.

The stair will have a landing at 20 ft and 70 ft for the operator to walk into the existing ASDE 8ft-5in x 4ft-5in landing platform. At 20 ft level, the contractor will install approximately 8ft-5in x 4ft-5in new landing platform to match with 8ft-5in x 4ft-5in existing landing and hand rails to match with the existing landing platform. The stair will have a 5 ft rise maximum and shall comply with OSHA requirements.

Hot-dipped galvanized stair should have diamond grip treads for optimal traction and is open to allow water and snow to pass through.

A 2 - 2 ft gate will be open in the middle of the 8ft-5in railing to access tool basket when hoist is operated at 20ft and 70ft level.

Stair, railings, handrails and fall protection anchor for operator while operating the hoist shall comply with OSHA requirements.

Lighting and grounding protection for stair structure shall comply with FAA Standard 019e.

The 7 ft industrial hoist will have at least 1500lbs lifting capacity at 20 ft landing and 70 ft landing and will be set up to run on a 120V or 208V power. The hoist at 20 ft and 70 ft will have their own remote control right at 20 ft and 70 ft level for operator. The third remote control will be installed at the ground level to operate the hoist at 20 ft and 70 ft as well. The hoist will have a permanent greased lubrication system to provide trouble free service and a power coated exterior finish to stand up to the element. The hoist will be housed in a ventilation steel box to provide additional weather protection.

Electrical for hoist shall comply with the latest NEC and the latest revision of FAA specification FAA-C-1217f, "Electrical Work, Interior".

Geotechnical / Soil report is required for the foundation design with helical piers, or

4 – 1ft diameter concrete piers or 4 – 3 ft diameter piers without foundation. Engineering calculations, structure stair designs and drawings are required for FAA review and approval prior to the construction.

As-built drawing shall be delivered to FAA after the project is done.

Note: A job walk is required to verify all dimensions and other criteria prior to bid. The contractor is responsible for verifying all existing utility and power cables prior to foundation excavation.

Electrical, Lighting and grounding

1. All electrical work shall comply with the latest revision of FAA specification FAA-C-1217f, “Electrical Work, Interior”.
2. All equipment grounding shall comply with the latest revision of FAA standard FAA-STD-019e, “Lightning Protection, Grounding, Bonding and Shielding Requirements for Facilities”.
3. All bonds shall be exothermic welds or FAA approved pressure connections.

Testing and Balancing

1. Perform an operational check of all newly installed equipment.
2. Clean up and restore the site grounds to its original condition after the work has been performed.

1.2 APPLICABLE DOCUMENTS

A. Applicable Documents - All FAA, Military, Federal, and industrial codes or standards, specifications, and contract drawings referenced in this and the following divisions form a part of this specification and are applicable only to the extent they were used as a basis of this design. All references to codes, standards, specifications, and construction drawings refer to the latest editions (and any supplements) in effect on the date of the contract.

B. Applicable Publications - The publications listed below form a part of this specification to the extent referenced. The publications are referenced to in the text by basic designation only.

1. Code of Federal Regulations (CFR):
   a. OSHA General Industry Safety and Health Standards (29 CFR 1910), OSHA Construction Industry Standards (29 CFR 1926). OSHA 2202 is a condensed version of 29 CFR 1926. Each is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.
   b. National Emission Standards for Hazardous Air Pollutants (40 Cfr, Part 61).

2. Federal Standard (313A): Preparation and the Submission of Material Safety Data Sheets.
3. FAA Specification 1217f: Electrical Work, Interior.
4. FAA Standard 019e: Lightning and Surge Protection, Grounding, Bonding, and Shielding Requirements for Facilities and Electronic Equipment.

1.3 DEFINITIONS

A. Federal Aviation Administration (FAA) - The terms "Federal Aviation Administration" (FAA) and "government" as used herein denotes the "owner".

B. Project Engineer (PE) - The term "Project Engineer (PE)" as used herein denotes the "Government's representative".

C. Contracting Officer (CO) - The term "Contracting Officer" (CO) as used herein denotes the person designated to act for the Government in the performance of this contract, and is the only person who is authorized to make changes on the contract.

D. Resident Engineer (RE) - The term "Resident Engineer" (RE) as used herein denotes the representative of the Contracting Officer at the job site. The term is synonymous with the FAA terms "Contracting Officer's Technical Representative" (COTR).

E. Contractor and Subcontractor - The term "Contractor" as used herein denotes the firm who will perform and complete the work required by the Contract. The term "subcontractor" as used herein denotes the person or firm retained by the Contractor to perform a particular unit of work required by the Contractor. Subcontractors shall be required to meet all specifications required of the Contractor.

1.4 CONSTRUCTION CONDITIONS

A. Pre-construction Conference - The Contractor shall attend a pre-construction conference at the time and location specified by the PE / RE. Requirements for material disposal, security and safety will be discussed. Use of facility restrooms, water, and power will also be discussed. Compliance with these procedures while on site is mandatory.

B. Submittals - Samples, certificates, reports, catalog cuts, letters, shop drawings, maintenance and operations manuals, etc. required shall be submitted to the PE / RE with a copy to CO.

C. Conflict Resolution - The Contractor shall meet standards, specifications, and drawings as specified herein. The specifications and drawings shall rule in all cases. Specifications shall govern over drawings. If any conflict should exist between site drawings (location-specific drawings) and standard drawings (drawings not referring to a

particular location), the site drawings shall govern. In the event of dimensional discrepancies or omissions, the Contractor shall field verify and correct the information, and notify the PE / RE and CO. No work shall be done until agreement has been made with the CO.

D. Inspection

1. Access for Inspection - The Contractor shall allow the PE / RE complete access to all portions of the work. Portions of the work buried, enclosed, or disguised, shall be inspected by the RE before being obscured by the next operation of the Contractor. In all cases, the PE / RE shall be informed accordingly and given access to the work. Work obscured before inspection and acceptance by the PE / RE, may, at the option of the PE / RE be opened for inspection at no additional cost to Government.

   The PE / RE will inspect all work in progress up to completion and final Contractor's Acceptance Inspection (CAI) including all materials, tools, and equipment. Such inspection may extend to all or a part of the work for the preparation, fabrication or manufacture of the materials to be used. The PE / RE will notify the Contractor of any non-compliance with the contract specifications and/or drawings, and may reject workmanship or materials accordingly.

2. Contractor's Acceptance Inspection (CAI) - After substantial completion of all the Contractor's work, a CAI will be conducted between the Contractor and Government. The PE / RE will review the contract documents and verify that the Contractor has completed all required work. If work remains to be completed, an itemized list will be prepared, and the contractor at no additional cost to the Government shall complete the remaining tasks correctly. A Joint Acceptance Inspection (JAI) requires FAA personnel to be present. It may be held concurrently with the CAI.

E. Project Coordination - The Contractor shall be required to coordinate his/her construction activities with the FAA through the PE / RE. All work which affects the facility shall be coordinated and approved by FAA personnel through the PE / RE at least twenty-four (24) hours in advance of the scheduled work. Failure to notify and obtain the necessary approval may result in a rescheduling of the work. If weather conditions or aircraft operations preclude a scheduled shutdown of an existing FAA facility, the Contractor shall reschedule the work. The Contractor will be required to coordinate all power shutdowns of existing facilities with the FAA, through the PE / RE, twenty-four (24) hours in advance. Each shutdown shall be limited and off-peak hours shall be required for testing or power shutdowns, with the facility placed back in service at the end of the workday, or as stipulated by the FAA.

F. Layout of Work - The Contractor shall field verify measurements and work from the established base lines and bench marks indicated on the drawings and shall be

responsible for all measurements in connection therewith. The Contractor shall furnish, at his/her own expense, all stakes, templates, platforms, equipment, tools, materials, and labor as may be required in laying out any part of the work from the base lines and bench marks previously established. The Contractor will be held responsible for the execution of the work as detailed in the plans and specifications. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks previously established until authorized to remove them.

G. **Permits, Inspection, Licenses, Certificates** - The Contractor shall obtain and pay fees for permits, inspections, licenses, or certificates required by Federal, State and City/Town officials as necessary to perform the work, prior to starting construction, and in a timely manner to avoid delays in starting the job. The Contractor shall submit evidence that they have obtained all required permits, inspections, licenses, and/or certificates.

H. **Compliance with Local and Other Codes** - The Contractor shall comply with local and other codes and standards. Where the requirements of the specifications and drawings exceed those of the local or other codes, the Contractor shall comply with the requirements of the specifications and drawings.

I. **Stop Work Orders** - When the Contractor or subcontractors are notified by the CO of any non-compliance with the provisions of the contract and the action(s) to be taken, the Contractor shall correct the unsafe or unhealthy condition. Life threatening or other serious violations shall be corrected immediately. Non-serious violations shall be corrected within 24 hours of the non-compliance notice. The CO may stop the work with a “stop work order” if the Contractor fails to comply promptly with all or any part of the work being performed. When satisfactory corrective action has been taken to correct the unsafe and unhealthy condition, the Contractor may resume work when approved by the CO. The Contractor shall not be allowed any extension of time or compensation for damages by reason of or in connection with such work stoppage.

J. **Protection of Existing Vegetation, Improvements and Structures** - The Contractor shall take all precautions necessary to protect the existing facilities, equipment, buildings, foundations, vegetation, etc., during construction. Any areas damaged by the Contractor or any subcontractors, shall be repaired or replaced to their original conditions by the Contractor at no additional cost to the government. Repairs shall be approved by the RE and shall match to original finish. The Contractor shall provide all temporary covers, enclosures, barricades, etc., required to protect the existing facilities.

K. **Schedules**

1. Schedule **-** The Contractor shall, within ten (10) calendar days from date of award of contract, submit to the CO for approval a practical project schedule. The schedule shall show the order in which the Contractor proposes to carry out the work, the date on which he/she will start the several salient features (including procurement of materials, plant and equipment) and the contemplated dates for completing the work. The schedule shall be in the form of a progress chart of suitable scale to indicate the approximate percentage of work scheduled for completion at any time. The Contractor shall enter on the chart the actual progress at such intervals as directed by the CO. The project schedule shall include a milestone schedule for payments. The milestones should be stated with requested reimbursement for each milestone (based upon actual costs, overhead and profit).

2. Progress Schedule **-** The Contractor, if requested by the CO, shall submit a progress schedule at such intervals as directed by the CO. If the Contractor fails to submit a progress schedule within three (3) business days, the CO may withhold approval of progress payment estimates until the Contractor submits the required progress schedule.

3. Hours of Work – Shall be approved by the PE / RE, all work shall be accomplished during normal business hours specified by the PE / RE. No work is allowed on weekends and Federal holidays unless approved by the PE / RE in writing.

L. Site Access - Access to the site will be via a pre-determined route identified and agreed upon at the pre-construction conference.

M. Special Permits - The Contractor shall obtain and submit evidence of all necessary permits for the work. The Contractor shall abide by all requirements dictated by the city, state, federal, airport authority or municipality for such permits without any additional cost to the government.

N. Waste Disposal - The Contractor shall provide on-site containers for the collection of construction waste materials, debris and rubbish and their daily removal from the site. Any spillage on access and haul routes shall be cleaned up immediately. All spoil, waste and debris removed from the work site and not specified for reuse or identified as salvageable items, or identified as contaminated contents shall be disposed of off site in areas authorized by the applicable County, State and/or Local agencies and in accordance with current rules and regulations governing the disposal of such waste. The Contractor, at no additional cost to the government, shall pay disposal fees and miscellaneous charges. Copies of all documentation of the disposal of any fuel or hazardous wastes will be submitted to the PE / RE.

O. **Cleanup** - The work site shall be kept clean and orderly during the progress of work. After final inspection, but before final acceptance of the work, all exterior surfaces of the equipment shall be cleaned of dirt, mud, or oil accumulations. All debris shall be removed from the general site area.

P. **O & M** - Upon completion of the facility modifications, the Contractor shall provide operation and maintenance instructions for all new equipment. This information will then be retained by the PE / RE (and the FAA) and used to reflect the as-constructed conditions.

Q. **Warranties** - Documentation for the warranties shall be provided to the government upon completion of the project.

1.5 SAFETY

OSHA and FAA safety standards will be enforced. In keeping with such standards, the Contractor shall, at a minimum, provide:

A. **Safety Plan** - The Contractor shall have and submit a Safety Plan with the purpose of maintaining a safe working environment for construction workers employed on site. The safety plan shall require a statement that the current Occupation Safety and Health Act (OSHA) regulations on safety in the construction industry, OSHA Title 29, Part 1910 and Part 1926, as well as FAA safety regulations are followed. The plan will be used by the PE / RE to insure that the work is accomplished in accordance with accepted safety practices.

B. **Trained Personnel** - Personnel shall be properly trained in the usage of all equipment for which they will be required to use during the Contract. The PE / RE may request documentation or other evidence of training at any time. Personnel without adequate training will be prohibited from using such equipment.

C. **Lock Out / Tag Out** – The Contractor shall employ and detail lock-out / tag-out procedures to employees working with and around electrical systems. When accessing an electrical panel, a FAA technician must be present prior to interrupting and energizing the breakers.

D. **Material Safety Data Sheets** - The Contractor shall have Material Safety Data Sheets (MSDS) conforming to Federal Standard 313A, written by the manufacturer, for all materials containing chemicals or other substances which may pose a hazard. One (1) copy of each MSDS shall be submitted to the RE and one (1) copy of each MSDS shall be kept on file at the job site at all times. The Contractor and subcontractors will be prohibited from handling any material which does not have an applicable MSDS on file at the site until such MSDS arrives on site.

E. Safety Equipment - The Contractor shall provide safety equipment including, but not limited to, a Red Cross approved First-Aid kit and the appropriate number of annually inspected, charged fire extinguishers with the proper NFPA rating.

F. HAZCOM Program - The Contractor shall have a hazard communications (HAZCOM) program. The Contractor and each subcontractor shall submit a copy of their HAZCOM program as well as a copy of their current OSHA 200 form, if requested.

G. Work Practices - Although OSHA regulations and the Contractor's Safety Plan will usually apply, the RE may consider certain work practices to be unsafe in accordance with Public Law 91-596, Part 5a and 5b. The RE may stop any operation which is in violation of the OSHA standards or fails to comply with the safety plan or other safe work practices.

H. Designated Foreman - When any construction activity is conducted at the site, the presence of a designated, competent contractor's foreman is required at the job site. The foreman must be qualified and capable of organizing and coordinating all activities of the Contractor and his subcontractors, and keeping a safe job site.

I. Work Force - The Contractor shall at all times, when construction activities are conducted, have a substantial number of workers for each task to proceed expeditiously and without generating delay, for lack of man-power.

2.0 CONTRACTOR-FURNISHED MATERIAL AND EQUIPMENT

2.1 MATERIAL DELIVERIES

All material deliveries made under this contract shall be arranged for delivery to the Contractor's material staging area. This area shall be located as determined at the pre-construction conference.

2.2 STORAGE AND PROTECTION

The Contractor, through the PE / RE, shall secure from FAA all necessary clearances for storage areas on site, including any time limitations upon the use of such areas. The storage and protection of Contractor material shall be the sole responsibility of the Contractor. The Contractor shall provide at his/her own expense all fencing, shelters and security personnel as may be necessary for the protection of the material and equipment.

2.3 PERTINENT INFORMATION

Any pertinent information listed about the contractor-furnished material and equipment shall be submitted to the PE / RE.

3.0 EXECUTION

3.1 WORK SEQUENCE

General: The Facility is an active operational facility, which runs 24 hours a day, 7 days a week; therefore, all work shall be coordinated and accomplished on a “Not to interfere with FAA operations” basis.

A. Design Built

The following information should be considered for the project:

Approximately 15ft x 15ft x 2ft 3000 psi reinforce concrete foundation right next to the existing ASDE elevator to support approximately 40000-50000lbs stand-alone hot dipped galvanized stair structure or the combination of steel structure with power coat weatherproofing and hot dipped galvanized stair.

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Electrical for hoist shall comply with the latest NEC and the latest revision of FAA specification FAA-C-1217f, “Electrical Work, Interior”.

Geotechnical / Soil report is required for the foundation design with helical piers, or 4 – 1ft diameter concrete piers or 4 – 3 ft diameter piers without foundation. Engineering calculations, structure stair designs and drawings are required for FAA review and approval prior to the construction.

As-built drawing shall be delivered to FAA after the project is done.

Note: A job walk is required to verify all dimensions and other criteria prior to bid. The contractor is responsible for verifying all existing utility and power cables prior to foundation excavation.

A. Testing, Balancing, Patchwork, and Clean-up

1. Perform an operational check of all newly installed equipment.
2. Clean up and restore the site grounds to its original condition after the work has been performed.

3.2 CONTRACTOR USE OF PREMISES

A. Use of the Site - Do not disturb portions of the site beyond the areas in which work is required.

B. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Government, the Government’s employees, and emergency vehicles at all time. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. **Use of the Existing Building** - Maintain the existing building in a watertight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building during the construction period.

END OF SECTION